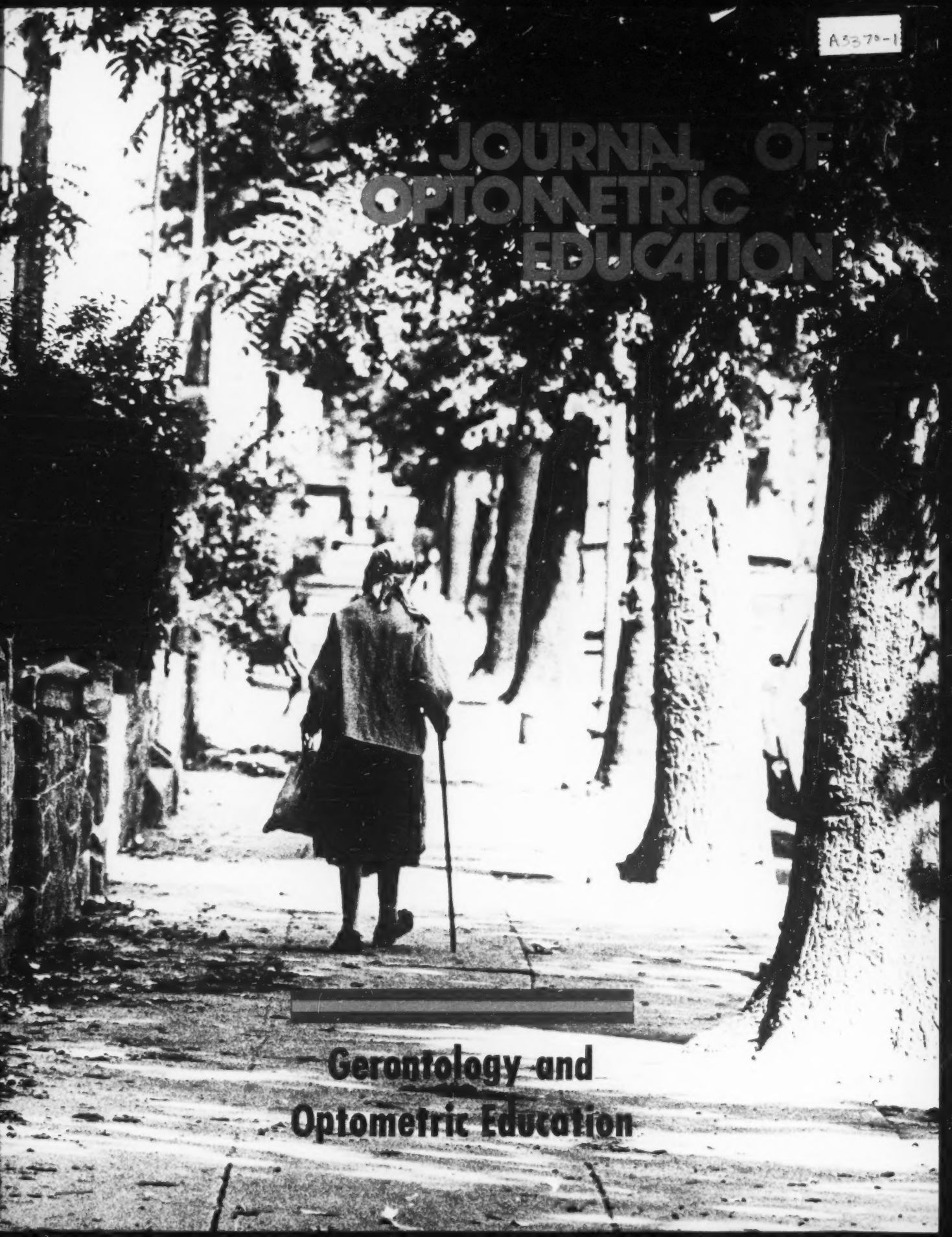
A337-1

JOURNAL OF OPTOMETRIC EDUCATION



Gerontology and Optometric Education

ISSN 0098-6917

Table of Contents
Fall, 1985
Volume 11, Number 2

JOURNAL OF OPTOMETRIC EDUCATION

Profile: Northeastern State University College of Optometry
W.C. Maples, O.D.
One of the nation's newest optometry colleges explores its history, describes its current operations and considers its future. **8**

Gerontology and Optometric Education
The nature and scope of instruction in geriatric optometry is examined by summarizing the results of a survey of teaching programs, by describing several optometric institutions with existing programs and by presenting a curriculum model to guide program development. **14**

Part I: Teaching Programs in Geriatric Optometry
Alfred A. Rosenbloom, O.D., M.A. **15**

Part II: Geriatric Optometry Programs of Promise
Satya B. Verma, O.D., The Pennsylvania School of Optometry
Janice Krantz, M.S., State University of New York
Gary L. Mancil, O.D., University of Alabama
Randall T. Jose, O.D., University of Houston **19**

Part III: A Curriculum Model for Geriatric Optometry
Alfred A. Rosenbloom, O.D., M.A. **22**

Utilization of Course Syllabi and Behavioral Objectives
Brian W. Caden, O.D., M.A.
Recommendations for developing stronger standardized course syllabi and behavioral objectives are explored. **26**

DEPARTMENTS

Editorial: "Optometry and Gerontology: A Vital Link"
John W. Potter, O.D. **4**

Sustaining Member News **6**

Newsmakers **25**

Resource Reviews
Felix M. Barker, II, O.D., M.S. **30**

Abstracts
Robert Rosenberg, M.S., O.D. **31**

Photo Credits: Cover, p. 4, 14, 18 courtesy The National Council on Aging, Inc., Page 8, 9, 10, 11, 12 Northeastern State University College of Optometry; Page 21, 22 Gary L. Mancil, O.D.

The **JOURNAL OF OPTOMETRIC EDUCATION** is published by the Association of Schools and Colleges of Optometry (ASCO). **Managing Editor:** Patricia Coe O'Rourke. **Art Director:** Dan Hildt, Graphics in General. Business and editorial offices are located at 600 Maryland Ave., S.W., Suite 410, Washington, D.C. 20024 (202) 484-9406. **Subscriptions: JOE** is published quarterly and distributed at no charge to dues-paying members of ASCO. Individual subscriptions are available at $15.00 per year, $20.00 per year to foreign subscribers. Postage paid for a non-profit, tax-exempt organization at Washington, D.C. Copyright ©1985 by The Association of Schools and Colleges of Optometry. Advertising rates are available upon request.

Teaching Programs in Geriatric Optometry

Albert A. Rosenbloom, O.D., M.A.

P A R T O N E

Introduction

Beck, Ettinger and Jakobsen, writing in *Gerontology and Geriatrics Education*,[1] state that medical and dental practitioners are reluctant to treat elderly patients. They cite various reasons for this reluctance and name the following as most common:

- Negative attitudes toward the elderly, generated by a cultural bias against old age.
- A general lack of knowledge and experience in treating elderly patients.
- A lack of experience in treating patients outside the private office setting; and
- A lack of financial incentive which is, in part, due to the additional time needed to treat elderly patients.

Moreover, Robert Butler, former Director of the National Institute on Aging, comments that a study of University of California medical students showed that their attitude toward old people actually worsened during four years in medical school. Student experience with elderly persons tends to reinforce deep fears about mortality and disability, with the predictable result that the more such fears are suppressed, the greater the likelihood of unsatisfactory relationships with aged patients. The so-called senile write-off becomes an easy, genteel maneuver to adopt—to interpret the patient's ailments as trivial, requiring no serious treatment, and to dismiss patients with a drug prescription or patronizing advice.[2]

In fact, many educators have voiced concern regarding the lack of care for the elderly patient, noting the absence of meaningful geriatric education in schools of the health professions. These educators call for the teaching of a philosophy of geriatric care which includes several components: the treatment of the whole person rather than the specific disease entity; modifications of diagnostic and treatment modes for the elderly; and considerations of patient management and patient compliance. Such a philosophy, implemented through teaching and clinical programs devoted to geriatric patient care, should result in a change of attitudes toward the elderly and a consequent greater confidence among practitioners in providing care to this group.

"The basic thrust of the questionnaire was the obtaining of information concerning the nature of education, both formal and informal, in geriatric optometry."

Present Study

Recognizing the importance of determining the state-of-the-art in teaching programs in geriatric optometry, this author undertook a survey of such programs in all optometry schools in the United States and Canada. To carry out this survey, a questionnaire was sent to 17 optometry schools. All but two schools replied. The basic thrust of the questionnaire was the obtaining of information concerning the nature of education, both formal and informal, in geriatric optometry. More specifically, questions were asked on such topics as off-campus programs, residency programs in geriatric patient care, continuing education and research planned or underway. The respondents were also encouraged to express their opinions regarding the best way to provide needed instruction in geriatric optometry.

Findings

Organization of the Curricula

Table 1 presents data on the organization of the curricula. Ten schools (67%) provided a formal course in geriatric optometry. Within this group, 5 courses were presented in the third year; 3 in the fourth year. One school reported a formal course in geriatric optometry as an elective to both third and fourth year students while another school offered such a program in the summer session between third and fourth years. Schools not offering a formal course provided instruction through occasional lectures in related courses, e.g., instruction in aging as a segment of a low vision course, instruction by clinical preceptors and an elective-seminar series.

Several schools submitted course outlines which provided further insight into course objectives and content areas. A review of several course outlines indicated the most common topics to be the following: (Table 2).

- demographics of an aging population
- role transitions in later life
- biology and physiology of aging
- health problems of the elderly
- normal age-related eye/vision changes
- common systemic and ocular diseases among elderly persons
- drug utilization review in geriatric practice
- modifications in examination techniques

These papers were presented to the Section on Optometric Education, American Academy of Optometry, meeting December 1984 in St. Louis.

Albert A. Rosenbloom, M.A., O.D., presently serves as the Illinois College of Optometry's first Distinguished Professor of Optometry. For a period of twenty-five years, he served as dean and then president of the Illinois College of Optometry. He is a former president of the Association of Schools and Colleges of Optometry. Dr. Rosenbloom is a contributing author to five textbooks and is co-editor of a new text entitled Vision and Aging: General and Clinical Perspectives, *to be published in December 1985.*

TABLE 1
Instructional Methods for Geriatric Optometry Schools and Colleges of Optometry

1. Is a formal course of instruction in Optometric Gerontology offered?	YES 10	NO 5
2. If so, what year in the curriculum is the course offered? One course is offered in the summer between III and IV Professional years One course is elective for III and IV year students	III Year 5	IV Year 3
3. If no formal course is offered, is instruction in the care of elderly patients covered in other courses?	YES 5	NO 0

4. In your opinion, what is the best way to provide needed instruction in Geriatric Optometry?

9 a single course in the third professional year

3 a single course in the fourth professional year

2 spread course elements among existing courses

1 plan more than one course during the third and fourth professional years

Note: Most respondents recommended a combined approach incorporating topics important to aging throughout the curriculum with a formal didactic course for unifying concepts by the end of the third professional year.

TABLE 2
Most Common Topics in Academic Instruction
(not in rank order)

1. demographics of an aging population
2. role transitions in later life
3. biology and physiology of aging
4. health problems of the elderly
5. normal age-related eye/vision changes
6. common systemic and ocular diseases among elderly persons
7. drug utilization review in geriatric practice; use/abuse and interactions between medications
8. modifications in examination techniques and procedures
9. aphakic refraction and correction
10. prescribing for and management of the elderly patient
11. the aging network

TABLE 3
Distribution of Off-Campus Geriatric Optometry Programs

Site	Number of Schools Reporting this Activity
Screenings in Senior Centers and in Health Fairs	10
Nursing Homes	8
VA Hospitals (residency rotations)	8
Geriatric Day Care Centers	3
General or County Hospitals	3
Community Health Centers	2
Mobile Clinic Services	1
Lighthouse (with Geriatric Visually Impaired Program)	1
Vision Center (with multidisciplinary care services)	1

- aphakic refraction and correction
- prescription for and management of the elderly patient
- network of community services for the aging

Clinical Training Programs in Geriatric Optometry

The questionnaire also requested information regarding the clinical content of the curriculum, both on-campus and off-campus. Three schools reported on-campus special provisions for elderly patient care. One provides a Geriatric or Adult Clinic Module for patients over 40 (UH); another appoints patients 65 and over to a Geriatric Clinic where special attention is paid to their needs (SCO); and a third provides for a Low Vision/Geriatric Clinic (UAB) which distinguishes between these two areas of patient care while addressing the overlap that exists in this population.

Table 3 describes nine different kinds of off-campus programs. In rank order, the most common off-campus program involved screenings in senior centers and health fairs. Others frequently cited include satellite programs in nursing homes; VA hospital geriatric optometry units; geriatric day care centers; general or county hospital units; and community health center programs. Programs cited by a single respondent included one for the geriatric visually impaired program in a local Lighthouse for the Blind; a mobile clinical service unit; and a geriatric unit in a multidisciplinary vision care center. No information was provided regarding the amount of student training within the total patient care curriculum. Moreover, no provision was made to determine whether students participating in these off-campus activities gained equivalent clinical experience.

In addition to providing some kind of off-campus clinical experience, five schools reported outreach education programs for the healthy aged. Most of these involved faculty lecturers for events sponsored by community organizations.

Residency Training Programs

Another type of off-campus program is the VA hospital residency training program characterized by academic affiliations with the optometry schools. Six schools reported off-campus student rotations. Most named one VA hospital affiliation while one school reported student rotations with three hospital affilia-

tions. Table 4 reports the types of residencies and the schools reporting those programs.

Continuing Education Programs

Seven of the 15 respondents reported continuing education programs in various aspects of vision and aging. In addition, two stated that occasional courses were scheduled and one reported that courses had been discontinued as a result of a lack of interest in the topic.

Research

Four schools reported one or more research studies in vision and aging. See Table 5 for a description of the studies.

Two schools reported the submission of grant applications whose outcome is pending. In addition, one school reports plans "to build a substantial research program in the future in low vision, pathology detection and optometric gerontology."

Discussion of Findings

What do these patterns tell us about the status of geriatric education in optometry?

First, although the results are generally positive, they show a wide range both in type and in depth of programs, especially apparent in the nature and extent of off-campus programs. When questioned about the most appropriate placement in the curriculum, the majority of respondents recommended a specific course in the third professional year. Most courses are multidisciplinary in nature. Curriculum outlines indicated both specific lecture assignments to faculty members within the optometric curriculum and to guest lecturers who brought special expertise to specific topics. The respondents also agreed that it is necessary to incorporate topics important to aging throughout the curriculum and to utilize guest lecturers with the desired educational and professional qualifications. The development of a curriculum model as a guide for planning instruction in optometric gerontology was considered an important objective in future planning.

Second, in the review of the principal topic areas in the six available course outlines, it seemed that there was little emphasis on a holistic concept of elderly people with vision problems. There seems to be a limited discussion of such

TABLE 4
Residency Training Programs
Schools and Colleges of Optometry

- VA Residency in Hospital-Based Geriatric Optometry, West Side VA Hospital (ICO)
- VA Residency in Geriatric Optometry, Vancouver VA Hospital (PCO)
- VA Residency in Geriatric Optometry, American Lake VA Hospital (SCCO)
- VA Residency in Hospital-Based Geriatric Optometry, Birmingham VA Hospital (UAB)
- VA Residency in Rehabilitative Optometry, Brentwood VA Hospital (SCCO)
- VA Residency in Rehabilitative Optometry, Los Angeles VA Hospital (SCCO)
- VA Residency in Rehabilitative Optometry, Northport VA Hospital (SUNY)
- VA Residency in Rehabilitative Optometry, Columbus VA Hospital (OSU)

TABLE 5
Research in Vision and Aging
Schools and Colleges of Optometry

• Contract Sensitivity Studies in Aging	(Ferris)
• Spatial Vision and Aging—Underlying Neural Mechanisms	(UAB)
• The Relationship of Vitamins and Cataracts	(IU)
• Glaucoma, Cataract, and Nutrition	(IU)
• Drugs with Anti-Glaucoma Potential	(IU)
• The Mechanisms of Action of Anti-Glaucoma Drugs	(IU)
• Strategies of Fixation with SMD	(UH)
• Early Detection of Retinal Diseases of the Aged	(UH)
• Color Vision Testing of the Older Patient	(UH)
• Psycho-Social Implications of Sight Loss for the Older Person	(UH)
Two schools reported the submission of grant applications, outcome pending.	
• Prescription Label Legibility in the Elderly	(ICO)
• Ocular Pneumoplethysmography and B-Mode Carotid Artery Scanning as a Screening Modality for Stroke Prevention in the Geriatric Population	(SCO)
One school reports plans "to build a substantial research program in the future in low vision, pathology detection, and optometric gerontology."	(UCB)

topics as the psychological, social, and behavioral aspects of aging, environmental considerations, community resources and multidisciplinary aspects of the "aging network."

Third, the variety of off-campus experiences is substantial. Indeed, the responses to questionnaires designate 9 different kinds of programs. In instances where schools offered only informal or occasional lectures in aging, most administrators agreed that the organization of a strong course or courses was their ultimate goal in curriculum planning.

In addition to curricular issues, there are other aspects to consider. Recent medical and dental studies point to the lack of interest in and negative attitudes toward the elderly among both students and practitioners. Positive learning experiences for students and more faculty role models in clinical training programs need to be developed. The importance of developing positive attitudes toward the care of elderly persons is a prime educational need.

A further evidence of need in educational planning for geriatric patient care is the fact that none of the 15 schools responding to the questionnaire cited the existence of programs for faculty in-service training. In planning such in-service activities, faculty qualifications and needs should be assessed.

Although much progress has been made in curricular development, the assignment at each institution of one or two faculty members with expertise in geriatric patient care and/or research is highly desirable. These faculty members could fulfill several roles:

- serve as the catalyst and facilitator for the further development of high quality instruction and research in gerontology and geriatric optometry, and
- develop an appreciation and concern for the special problems of caring for elderly patients.

A continuation and marked expansion of basic and clinical research as well as effective dissemination and careful application of the research findings is essential. The growing number of research grant opportunities from such agencies as the federal Administration on Aging, the National Institute on Aging, and the National Eye Institute are encouraging signs. The existence of collaborative studies with allied disciplines is also an indication of the interest in research within this field.

The goal of expanding geriatric optometry programs in teaching, research and public service represents a positive force in optometric education. The results of the survey show a universal concern for curriculum development in geriatric optometry. This is another indication of the dynamic nature of optometric education in meeting the health care needs of the elder patient.

References

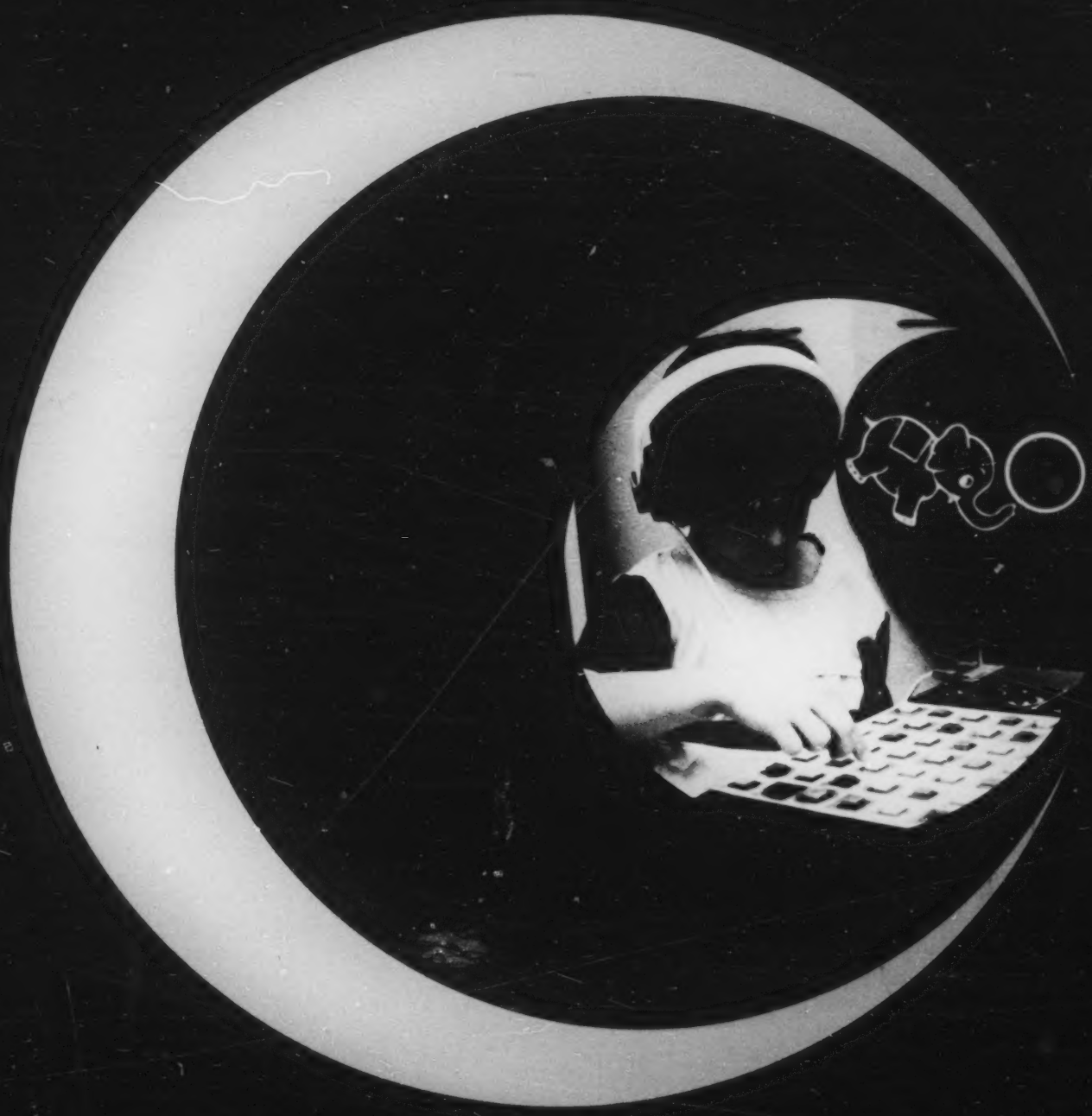
1. Beck JD, Ettinger RL, Jakobsen J: Teaching programs in geriatric dentistry: An international comparison. Gerontology and Geriatric Education 4(2): 37-49, 1983.
2. Butler, RN: The doctor and the aged patient. Hospital Practice: 102-103, March 1978.

2/18/86
A3370-1

FOCUSING ON
LEARNING DISABILITIES

Winter 1986
Volume 11, Number 3

JOURNAL OF OPTOMETRIC EDUCATION



ISSN 0098-6917

Table of Contents
Winter, 1986
Volume 11, Number 3

JOURNAL OF OPTOMETRIC EDUCATION

The Learning Disabilities Unit at the State College of Optometry/SUNY
Harold A. Solan, O.D., F.A.A.O. and Florence E. Springer

Recognized as one of the leading diagnostic groups for children and adults with learning disabilities in the New York metropolitan area, the Learning Disabilities Unit at the State College of Optometry/SUNY is celebrating its tenth anniversary. **8**

Grades Management at the Southern California College of Optometry
Walter Wm. Chase, O.D., M.Sc.

The development and nature of the grades management system used at the Southern California College of Optometry is described. **14**

A Survey of State Boards of Optometry Concerning Educational Requirements in Pharmacology
Gary A. Lesher, Ph.D.

A survey of all state boards of optometry provides current information on varying requirements in pharmacology coursework for new optometry graduates. **17**

A Pilot Study of a Computer-Based PMP (Patient Management Problem)
Samuel D. Hanlon, O.D. and Julie B. Ryan, O.D.

Computer assisted patient encounters offer potential benefits for optometric evaluation and instruction. **20**

Annual Survey of Optometric Educational Institutions, 1984-85

The annual summary of the Council on Optometric Education report provides data regarding student enrollment, financial aid and student expenditures for the academic year 1984-85. **26**

DEPARTMENTS

Editorial: "Ocular Disease Competency—Teaching and Testing" **4**
John W. Potter, O.D.

Letters to the Editor **6**

Sustaining Member News **12**

Resource Reviews **31**
Felix M. Barker, II, O.D., M.S.

Cover photo: At State University of New York College of Optometry, sequencing, directionality, auditory-visual integration, and visual conceptualization are some of the skills developed using the Electro Therapist.

The **JOURNAL OF OPTOMETRIC EDUCATION** is published by the Association of Schools and Colleges of Optometry (ASCO). **Managing Editor:** Patricia Coe O'Rourke. **Art Director:** Dan Hildt, Graphics in General. Business and editorial offices are located at 600 Maryland Ave., S.W., Suite 410, Washington, D.C. 20024 (202) 484-9406. **Subscriptions: JOE** is published quarterly and distributed at no charge to dues-paying members of ASCO. Individual subscriptions are available at $15.00 per year, $20.00 per year to foreign subscribers. Postage paid for a non-profit, tax-exempt organization at Washington, D.C. Copyright ©1985 by The Association of Schools and Colleges of Optometry. Advertising rates are available upon request.

A Survey of State Boards of Optometry Concerning Educational Requirements in Pharmacology

Gary A. Lesher, Ph.D.

Introduction

As one of the largest colleges of optometry in the country, the Illinois College of Optometry educates students from all over the country. To give all students the choice to practice anywhere in the country, they must be prepared to meet and pass 50 different sets of state board requirements and exams. While many of these requirements may seem quite standard across most states, this is not true in the area of pharmacology where state board requirements for various courses, the number of contact hours and curricular content are changing quite rapidly.

This survey was conducted in an effort to plan pharmacology course offerings to meet these needs, both now and in the future. The survey was mailed to all state boards of optometry in order to determine their requirements in pharmacology coursework for new optometry graduates. It was also important to determine what changes, if any, they plan for the near future. Since it was felt that the survey results would also be of interest to the state boards for comparison and/or updating their pharmacology requirements, the final question on the survey was whether they would like to see the results of the survey when completed. Other schools and colleges of optometry also may find the information in this survey valuable since many of them also attract students from across the country. This information also should be useful to optometry students in planning what courses to take to qualify for a particular state board exam.

Gary A. Lesher, Ph.D., is assistant professor of pharmacology and toxicology in the Division of Basic Sciences at the Illinois College of Optometry.

Methods

The survey instrument consisted of 10 questions (Table 1) aimed at determining the number of class hours and any specific course content required by the specific state board. The survey was sent with a cover letter explaining its purpose to all state boards of optometry in July of 1984. A second copy of the survey with a second letter was mailed to the states that had not yet replied in August. A telephone follow-up was made in October 1984 to encourage the last few states to respond. Forty-nine of fifty states plus the District of Columbia and Puerto Rico eventually responded and are included in the survey results.

Results and Discussion

Of the 52 possible respondents, 51 returned the completed survey (98%) either by mail or by phone. Table 1 presents the original survey questions. If a state board answered "no" to question number one, it was asked to skip questions 2-7 and complete numbers 8-10 of the survey.

Twenty-one of the 51 respondents (41%) answered "yes" to question #1—they do have special requirements for pharmacology coursework for new graduates. Many of the states that answered "no" to question 1 also added that the candidate must be a graduate from an accredited school or college of optometry. This simple requirement insures that the candidate will have a minimum of pharmacology coursework since all the schools have required pharmacology courses in the curriculum. Of the 21 states answering "yes" to question #1, 19 (91%) have a minimum number of class hours for pharmacology coursework (see Table 2). The average was 70 class hours with a range of 40 to 100 hours. New Mexico will have a new requirement of 105 class hours in pharmacology to obtain a license to use therapeutic agents.

In answer to question 3, four of 21 states (19%) specify a minimum number of class hours in ocular pharmacology instruction (see Table 2). Of those that specified hours the average is 25 class hours (range 20-30).

In answer to question 4, ten of 21 (48%) require some form of emergency medical training, most asking that the O.D. have a current CPR certification (see Table 2).

In answer to question 5, several states said that course content should include systemic effects and/or reactions to

TABLE 1
Survey Questions

1. Does the (state board) have any special requirements for pharmacology coursework to qualify an optometry graduate to take your state board exam?
   Yes or No (If your answer is no, you may skip questions 2-7)
2. Does the (state board) have a minimum number of credit hours for pharmacology coursework?
   Yes or No If yes, how many hours do you require? Are these quarter or semester hours?
3. Does the (state board) have a minimum number of credit hours of Ocular Pharmacology required to take your board examination?
   Yes or No If yes, how many hours do you require?
4. Does the (state board) have any requirement for training in treatment and/or management of medical emergencies (i.e. CPR, etc.)?
   Yes or No If yes, how many hours do you require?
5. Does the (state board) have any specific requirements for coursework in systemic effects and/or reactions to topical pharmaceutical agents?
   Yes or No If yes, how many hours do you require?
6. Does the (state board) have any specific grade requirements for pharmacology coursework to qualify a candidate to take your state board examination?
   Yes or No If yes, what is the minimum grade requirement?
7. Does the (state board) have any other specific educational requirements or regulations pertaining to pharmacology coursework or the use of topical pharmaceutical agents (either diagnostic or therapeutic)?
   Yes or No If yes, please specify.
8. Does the (state board) accept the results of the NBEO pharmacology exam (Part II B, section 9), or do you require passing a pharmacology section on your own board exam?
   Accept NEBO Require your own pharmacology exam Other (please specify).
9. Does the (state board) have any plans within the next two years to change and/or add to the pharmacology educational requirements?
   Yes or No If yes, please specify.
10. Would you like to receive a copy of the results of this survey when it is completed?
    Yes or No

TABLE 2
States Answering Yes to Question One

State	Pharmacology hours (class time)	Ocular Pharm hours (class time)	Emergency Medical Training
AZ	40	—	no
CA	55	20	CPR Certified
CO	55	—	CPR Certified
GA	80 (8 qt hr)	—	no
ID	55	—	CPR Certified
IA	100	—	no
KY	90	—	Emergency care on practical exam
LA	96 (6 sem hr)	—	no
MI	60	30	CPR Certified
MN	60	—	CPR Certified
MS	60 (6 cr hr)	—	CPR Certified
MO	96 (6 sem hr)	—	no
NE	100 (6 sem hr)	—	no
NM	70	—	no
NY	none specified	—	CPR Certified
OH	57	—	CPR Certified
OK	none specified	—	CPR Certified
SC	80	—	no
TN	60 (6 qt hr)	—	no
VA	55	20	no
WI	60	30	no

topical pharmaceutical agents. Many of the states have curricular content mentioned in their legislation, but no specific hours are mentioned. These areas include general, ocular and clinical pharmacology, as well as sections on the reactions to topical agents, emergency management, ocular toxicity and ocular allergies. Two of the 21 states (10%) list a specific number of class hours for systemic effects from topical ocular agents. Arizona requires one hour and Michigan three hours dealing specifically with systemic effects of ocular agents. The Michigan law also specifies that the student have 10 class hours in the use of topical diagnostic agents.

In answering question 6, two of 21 (10%) require a minimum grade of 70 in the pharmacology coursework to qualify for their board examination. Those two states were Nebraska and South Carolina.

"The use of pharmaceutical agents by optometrists is one of the most rapidly changing areas in the profession."

For question 7, a number of states said they require continuing education credits to maintain a current license. However, as far as having any additional pharmacology coursework requirements for a new graduate to take a state board exam, all states (100%) replied "no."

With question 8, all state boards were asked again to reply (see Table 3), and 47% (24 of 51) said they accept the results of the NBEO pharmacology exam (section 9, part IIB), while 39% (20 of 51) said they would still require the student to take a pharmacology exam on their state board exam. Seven states (14%) said that they require both the NBEO exam and a state board pharmacology exam.

In answering question 9, fourteen (28%) of the state boards said they expect changes in their regulations within two years (see Table 3). Three states—Illinois, New Mexico and Iowa—already are changing their requirements as a result of new legislation passed this year.

Nearly all the state boards answered "yes" to question 10 (92%), indicating that they would like to see the results of this nationwide survey on pharmacology requirements. Those states have all been sent the survey results. It is hoped that the states might use these results, not in an effort to homogenize the pharmacology requirements across all states, but to compare and update their requirements and to educate their legislators with regard to what is being done across the country.

Conclusion

The use of pharmaceutical agents by optometrists is one of the most rapidly changing areas in the profession. New state laws and regulations concerning pharmaceutical agents are being passed each year. This survey was an effort to compile the current requirements for new graduates concerning pharmacology coursework. However, even as this article was being written, several states have passed new laws. For example, the Illinois State Board of Optometry did not respond to the survey; however, in January 1985, its governor signed the amended Illinois Optometric DPA bill. New rules and regulations concerning pharmacology requirements obviously will be written in the near future. New Mexico, a state that already has a DPA bill, has recently passed a TPA bill and now will have additional pharmacology requirements for a license to use those therapeutic agents (105 class hours). The Iowa legislature also has passed a TPA bill, so they will be rewriting their pharmacology requirements in the near future. It is important therefore to continually update the pharmacology courses and content to allow ICO graduates to practice anywhere they choose.

While this survey concerns the pharmacology requirements for a new optometry graduate, many of the states have different requirements for previously licensed O.D.'s to obtain certification for the use of DPA's and/or TPA's in their states. These additional regulations, along with the need in many states for continuing education classes in pharmacology, present a significant additional need for training in pharmacology outside the college classroom. Thus, curriculum development is needed that also will allow practicing O.D.'s to upgrade their knowledge and skill in the use of pharmaceutical agents to obtain DPA and/or TPA certification. The Illinois College of Optometry is currently planning these types of training situations for experienced practitioners.

TABLE 3
Response to Survey Questions #8 and #9

State	Question #8			Question #9
	Accepts NBEO	Requires Own Exam	Requires Both	Plan Changes
AL		b		Yes
AK	a			Yes
AZ	a			
AR	a			
CA	a			
CO		b		
CT	a			
DE	a			
DC	a			
FL			c	
GA			c	
HI		b		
ID			c	
IN	a			
IA		b		
KS		b		
KY			c	
LA		b		
ME	a			
MD	a			
MA	a			Yes
MI		b		
MN	a			
MS		b		
MO		b		
MT	a			
NE	a			Yes
NV		b		Yes
NH	a			Yes
NJ			c	Yes
NM		b		Yes
NY			c	
NC			c	
ND	a			
OH		b		
OK		b		
OR	a			
PA	a			Yes
PR		b		Yes
RI	a			
SC		b		
SD	a			Yes
TN	a			
TX		b		
UT	a			
VT	a			Yes
VA		b		
WA		b		
WV		b		Yes
WI	a			
WY		b		Yes

a = Accepts NBEO pharmacology exam. b = State requires own pharmacology exam. c = State requires NBEO and own pharmacology exam.

Annual Survey of Optometric Educational Institutions

1984-85

The following is a summary of portions of the 1984-85 Annual Survey of Optometric Educational Institutions conducted by the American Optometric Association Council on Optometric Education. The accompanying tables highlight information on student enrollment, academic achievement, financial aid and student expenditures for the year 1984-85. This report is published as an annual feature of JOE.

Student Enrollment

Total student enrollment for the academic year 1984-85 for all U.S. schools was 4,460; this represented a decrease of 1.77% over the previous year's enrollment of 4,539. First year students totaled 1,170 representing a decrease of 1.43% from the previous year's 1,187.

The sharp rise in female enrollment noted over the last few years fell off for the year 1984-85. Total female enrollment increased by 7.74% from 1,291 students in 1983-84 to 1,391 students in 1984-85; thus women represented more than 31% of the total enrollment. But the number of women in the 1984-85 entering class comprised 34.66% (408 students) compared to 34.2% (406 students) in 1983-84.

Minority enrollment for all U.S. accredited schools accounted for 12.65% (564 students) of the student body in 1984-85 compared to 12.87% (584 students) in 1983-84. This year's decrease in minority enrollment broke with a previous climb in the percentage of minority enrolled over the past five years. Minority enrollment represented 8.78% of the total student body in 1979-80, 9.52% in 1980-81, 10.66% in 1981-82, 12.17% in 1982-83 and 12.87% in 1983-84. Within the U.S. totals, two schools, the University of California at Berkeley and Southern California College of Optometry, with minority enrollments of 37.9% and 28.5% respectively, were largely responsible for the 12.65%. Seven of the schools continued to have minority percentages under 10%.

Women accounted for 45.4% (317 students) of minorities enrolled in 1984-85, compared to 37.3% in 1983-84. Of minorities enrolled, 41% were Asian American (down from 50.2% last year), 32.1% Spanish surname (up from 21.1% last year), 28% Black American (up from 15% last year), 9% foreign national (down from 10.6% last year) and 3.7% native American Indian (down from 3.1% last year).

Academic Achievement

Of the 1984-85 entering class, 70.8% (814 students) had four or more years of prior college work before entering optometry school. In addition, the majority of this class, 64.4% (740 students) had a baccalaureate or higher degree, whereas only 6.4% (74 students) were reported having 4+ years of prior college work without having received a degree. The number of entering students having four or more years of college represented an increase of 5.03% from the 1983-84 total of 775 students. The number of students having a baccalaureate or higher degree increased by 4.37% from 1983-84's total of 709 students.

Of the remaining first year students, 8.7% had 2+ years of prior college work, and 20.3% had 3+ years.

The mean grade point average for entering students in 1984-85 was 3.15, as compared to 3.16 in 1983-84. Fourteen of the sixteen U.S. optometric educational institutions had mean grade point averages of 3.0 or better and five of these institutions had mean grade point averages of 3.25 or better. These grade point averages were based on a total of 1,180 entering students reported in *Information for Applicants to Schools and Colleges of Optometry*, Fall, 1986.*

Financial Aid

The amount of aid (other than loans) granted through institutions for the academic year 1984-85 is given in percentages for fifteen of the U.S. institutions. The amount of student loans granted through institutions for 1984-85 is given in the same manner. These show the percentage of students receiving aid in each of the four classes, percentage of average aid, and the percentage from federal and state sources.

The average of students receiving financial aid granted through institutions excluding loans was 21.8% in 1984-85, a slight decrease from 22.14% in 1983-84. The average of students receiving student loans through institutions was 61.06% in 1984-85, as compared to 62.57% in 1983-84.

The average of students who received financial aid (excluding loans) from the federal government showed an increase from 20.07% in 1983-84 to 24.58% in 1984-85. The average of students who received student loans from the federal government increased from 87.28% in 1983-84 to 87.57% in 1984-85.

Student Expenditures

Annual student expenditures for tuition, fees, books, supplies and other costs excluding living expenses ranged from $2,250 to $8,050 for residents and $3,146 to $12,039 for non-residents in 1984-85. The mean average expenditure for costs other than room and board was $4,707 for residents and $9,179 for non-residents. These represented increases of .81% and 12.5% over the 1983-84 mean costs of $4,669 and $8,154 respectively.

The average expenditures for room and board in 1984-85 ranged from $2,113 to $6,190. The mean average expenditure was $3,708, an increase of 5.3% over the previous year's $3,521.

Taken altogether, the mean average cost of education for an optometry student in 1984-85 totaled $8,415 for residents and $12,887 for non-residents. These figures represented increases of 2.7% and 10.38%, respectively, over the costs of $8,190 and $11,675 in 1983-84.

**Information for Applicants to Schools and Colleges of Optometry*, Fall, 1986, St. Louis, Missouri: American Optometric Association.

The following abbreviations have been used in the accompanying tables.

Schools

FSC — Ferris State College
IAU — InterAmerican University of Puerto Rico
ICO — Illinois College of Optometry
IU — Indiana University
NECO — New England College of Optometry
NSU — Northeastern State University
PU — Pacific University
PCO — Pennsylvania College of Optometry
SCCO — Southern California College of Optometry
SCO — Southern College of Optometry
SUNY — State University of New York
TOSU — The Ohio State University
UAB — University of Alabama in Birmingham
UCB — University of California, Berkeley
UH — University of Houston
UMSL — University of Missouri-St. Louis

Profile of 1984 Entering Class

Grade Point Averages (4.0 Scale)

	High	Low	Mean	Number of Students
FSC	3.90	2.50	3.40	34
IAU	3.27	2.09	2.70	33
ICO	4.00	2.41	3.03	150
IU	n/a	n/a	3.22	62
NECO	4.00	2.25	3.07	87
NESU	4.00	2.82	3.30	23
PCO	3.96	2.50	3.08	149
PU	3.96	2.29	3.12	85
SCCO	4.00	2.75	3.24	96
SCO	3.93	2.09	2.89	103
SUNY	3.98	2.40	3.29	59
TOSU	3.95	2.74	3.31	60
UAB	3.78	2.22	3.15	40
UCB	3.78	2.14	3.16	69
UMSL	3.95	2.34	3.09	32
UH	3.97	2.32	3.28	98

SOURCE: *Information for Applicants to Schools and Colleges of Optometry, Fall, 1986. St. Louis, Mo: American Optometric Association.* *n/a—Not Available*

1984-85 Annual Survey of Optometric Educational Institutions

Number of First Year Students Enrolled with:

	2+ Yrs.	3+ Yrs.	4+ Yrs.	B.A., B.S.	M.A., M.S.	Ph.D.	TOTAL
FSC	10	9	4	8	2	0	33
ICO	31	37	4	73	3	0	148
IU	0	22	9	30	1	0	62
NECO	0	0	10	76	0	9	95
NSU	8	4	0	9	2	0	23
PCO	0	24	6	117	2	0	149
PU	12	27	6	39	0	1	85
SCCO	3	14	9	69	0	0	95
SCO	22	24	12	45	0	0	103
SUNY	0	3	0	55	1	0	59
TOSU	15	11	9	22	3	0	60
UAB	0	8	0	31	1	0	40
UCB	0	19	2	45	1	1	68
UH	0	27	1	65	3	1	97
UMSL	0	5	2	23	2	0	32
U.S. TOTALS	101	234	74	707	21	12	1149

1984-85 Annual Survey of Optometric Educational Institutions

	Financial Aid Granted Through Institutions Excluding Loans							Student Loans Granted through Institutions					
	Percentage of Students Receiving Aid					From	From	Percentage of Students Receiving Loans					
	1st Year	2nd Year	3rd Year	4th Year	Average	Federal	State	1st Year	2nd Year	3rd Year	4th Year	Average	Federal
FSC	34	16	0	7	14	59	41	63	65	78	73	69	32
ICO	14	27	18	45	26	44	28	79	85	83	87	83	99
IU	10	2	3	7	5	0	n/a	27	29	68	54	44	95
NECO	43	51	32	48	44	30	55	71	74	84	71	75	100
NSU	60	55	60	50	56	30	60	56	55	80	75	66	52
PCO	10	10	5	5	7	25	25	85	85	85	85	85	99
PU	9	8	10	12	9	4	96	19	18	20	20	19	100
SCCO	18	20	23	29	22	19	81	79	79	80	86	81	100
SCO	0	0	0	0	0	n/a	n/a	0	37	34	38	36	90
SUNY	58	62	59	50	57	50	52	96	96	98	98	97	98
TOSU	25	43	38	25	32	0	8	21	40	45	30	34	88
UAB	12	16	17	11	14	34	62	72	71	78	74	73	88
UCB	5	9	3	4	5	0	44	31	39	40	21	32	90
UH	unk	25	30	17	24	unk	unk	unk	50	56	52	52	unk
UMSL	19	10	12	10	12	unk	unk	74	63	85	68	70	95

1984-85 Annual Survey of Optometric Educational Institutions

Annual Student Expenditures

	Resident Educational Expenditures					Non-Resident Educational Expenditures					Average Room & Board Expenditures
	1st Year	2nd Year	3rd Year	4th Year	Average	1st Year	2nd Year	3rd Year	4th Year	Average	
FSC	$7,443	$5,436	$4,435	$5,127	$5,610	$9,128	$8,096	$8,095	$9,697	$8,754	$2,508
ICO	3,295	3,295	3,295	3,295	3,295	9,899	9,544	9,034	9,864	9,585	3,295
IU	5,643	4,776	3,415	2,962	4,199	9,421	8,784	7,766	6,397	8,092	2,715
NECO						10,502	10,328	10,318	9,821	10,242	5,607
NSU	3,915	3,165	2,765	1,865	2,928						3,562
PCO	8,391	7,616	7,016	7,096	7,530	12,391	11,616	11,016	11,096	11,530	2,113
PU						10,675	9,375	9,075	8,725	9,463	2,420
SCCO						9,240	9,094	8,113	7,671	8,529	6,190
SCO	8,198	8,973	8,824	4,563	7,639	12,598	13,373	13,224	8,963	12,039	4,726
SUNY	8,300	7,800	7,800	8,300	8,050	11,300	10,800	10,800	11,300	11,050	4,700
TOSU	4,050	4,650	4,150	3,780	4,158	10,881	11,481	10,981	10,611	10,989	3,500
UAB	3,255	4,014	3,350	2,702	3,330	7,653	8,412	7,748	7,100	7,728	3,072
UCB	2,900	1,900	2,300	1,900	2,250	6,170	5,170	5,570	5,170	5,520	3,327
UH	4,150	1,934	1,323	1,180	2,146	5,150	2,934	2,323	2,180	3,146	3,691
UMSL	5,481	4,987	6,190	4,737	5,349	11,981	11,487	12,690	11,237	11,849	4,207

1984-85 Annual Survey of Optometric Educational Institutions

Full-Time Students Enrolled in the Professional Degree Program

	First Year		Second Year		Third Year		Fourth Year		TOTALS		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
FSC	20	13	21	10	23	4	24	6	88	33	121
ICO	104	51	101	37	87	22	103	26	395	136	531
IU	38	24	45	17	42	23	41	27	166	91	257
NECO	55	40	47	36	56	20	67	32	225	128	353
NSU	17	6	22	3	18	6	21	3	78	18	96
PCO	91	65	86	64	91	42	101	37	369	208	577
PU	58	27	74	11	64	18	72	11	268	67	335
SCCO	56	41	59	36	63	29	64	31	242	137	379
SCO	81	24	78	26	79	16	98	16	336	82	418
SUNY	35	24	28	35	32	24	32	27	127	110	237
TOSU	36	24	42	19	43	14	44	14	165	71	236
UAB	33	11	25	13	27	14	22	13	107	51	158
UCB	47	27	38	27	41	23	39	24	165	101	266
UH	73	24	52	41	62	28	66	30	253	123	376
UMSL	25	7	20	11	23	8	17	9	85	35	120
U.S. TOTALS	769	408	738	386	751	291	811	306	3069	1391	4460

1984-85 Annual Survey of Optometric Educational Institutions

Minority Group Students Enrolled

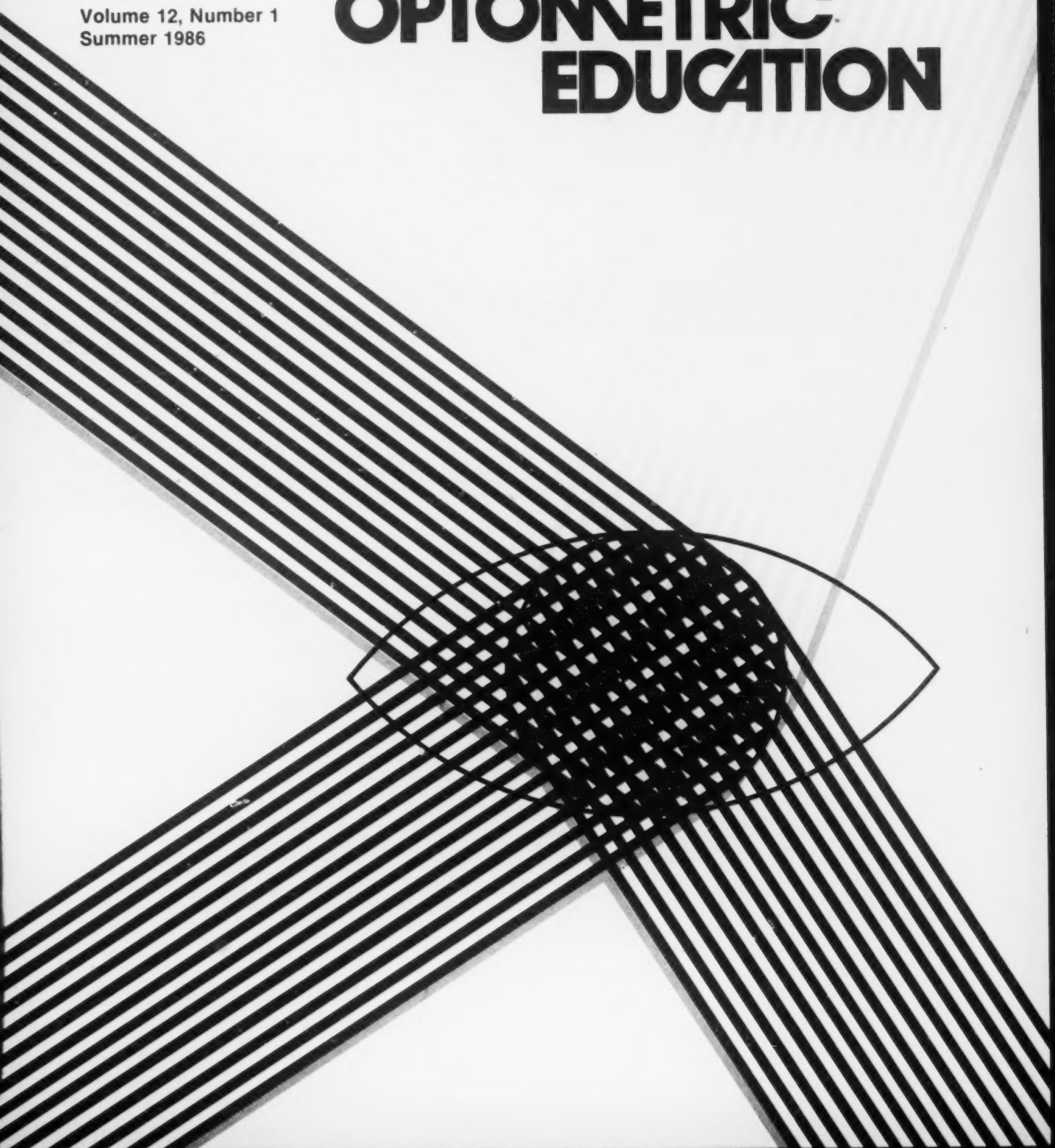
	Black American		Spanish Surname		Native American Ind.		Asian Amer.		Foreign Nationals		TOTALS			% of Student
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total	body
FSC	1	1	0	0	0	0	0	0	0	0	1	1	2	1.65
ICO	6	5	11	2	0	0	19	10	7	1	43	18	61	11.49
IU	2	8	3	1	1	1	5	4	2	3	13	17	30	11.67
NECO	3	1	1	1	0	0	5	2	5	3	14	7	21	5.95
NSU	0	0	2	0	6	4	0	0	1	0	9	4	13	13.54
PCO	9	16	5	5	1	1	10	7	1	5	26	34	60	10.40
PU	0	0	6	0	0	0	0	13	10	3	16	16	32	9.55
SCCO	1	3	7	9	0	0	45	42	1	0	54	54	108	28.50
SCO	4	4	9	3	1	2	5	2	3	0	22	11	33	7.89
SUNY	3	6	5	3	0	0	5	4	1	0	14	13	27	11.39
TOSU	2	2	0	1	0	0	1	1	0	0	3	4	7	2.97
UAB	3	1	2	2	0	0	0	1	0	0	5	4	9	5.70
UCB	5	2	13	5	1	0	37	38	0	0	56	45	101	37.97
UH	4	1	11	9	2	0	5	6	8	6	30	22	52	13.83
UMSL	1	2	0	0	0	1	2	0	1	1	4	4	8	6.67
U.S. TOTALS	44	52	75	41	12	9	139	130	40	22	310	254	564	12.65

A3370-1

ASCO'S
ANNUAL REPORT

Volume 12, Number 1
Summer 1986

JOURNAL OF OPTOMETRIC EDUCATION



ISSN 0098-6917

Table of Contents
Summer, 1986
Volume 12, Number 1

JOURNAL OF OPTOMETRIC EDUCATION

Characteristics of Optometric Residencies in the Veterans Administration
Daniel J. Koch, O.D. and Robert D. Newcomb, O.D., M.P.H.
A dramatic increase in the number of female Veterans Administration optometry residents is reported in this survey of program directors and residents. **12**

The Alumni Survey: A Tool in Curriculum Evaluation
Michael H. Heiberger, O.D., M.A.
A survey of alumni at the State College of Optometry (SUNY) aids in academic planning. **16**

Association of Schools and Colleges of Optometry Annual Report 1985-1986 **20**

Publication Guidelines for the Journal of Optometric Education
John W. Potter, O.D., Patricia C. O'Rourke, M.A. and Patricia T. Carlson, M.S.L.S. **28**

DEPARTMENTS

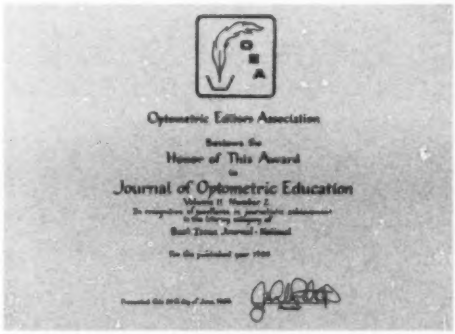
Editorial: "The Neglected and Abused Case Report" 4
John W. Potter, O.D.

Letters to the Editor 6

Resource Reviews 6
Felix M. Barker, II, O.D., M.S.

Newsmakers 10

Sustaining Member News 27



Awarded "BEST JOURNAL—NATIONAL" by the Optometric Editors Association, June 1986, for the published year 1985.

The **JOURNAL OF OPTOMETRIC EDUCATION** is published by the Association of Schools and Colleges of Optometry (ASCO). **Managing Editor:** Patricia Coe O'Rourke. **Art Director:** Dan Hildt, Graphics in General. Business and editorial offices are located at 6110 Executive Boulevard, Suite 514, Rockville, MD 20852 (301) 231-5944. **Subscriptions: JOE** is published quarterly and distributed at no charge to dues-paying members of ASCO. Individual subscriptions are available at $15.00 per year, $20.00 per year to foreign subscribers. Postage paid for a non-profit, tax-exempt organization at Washington, D.C.
Copyright ©1986 by The Association of Schools and Colleges of Optometry.
Advertising rates are available upon request.
The Journal of Optometric Education disclaims responsibility for opinions expressed by the authors.

Characteristics of Optometric Residencies in the Veterans Administration

Daniel J. Koch, O.D.
Robert D. Newcomb, O.D., M.P.H.

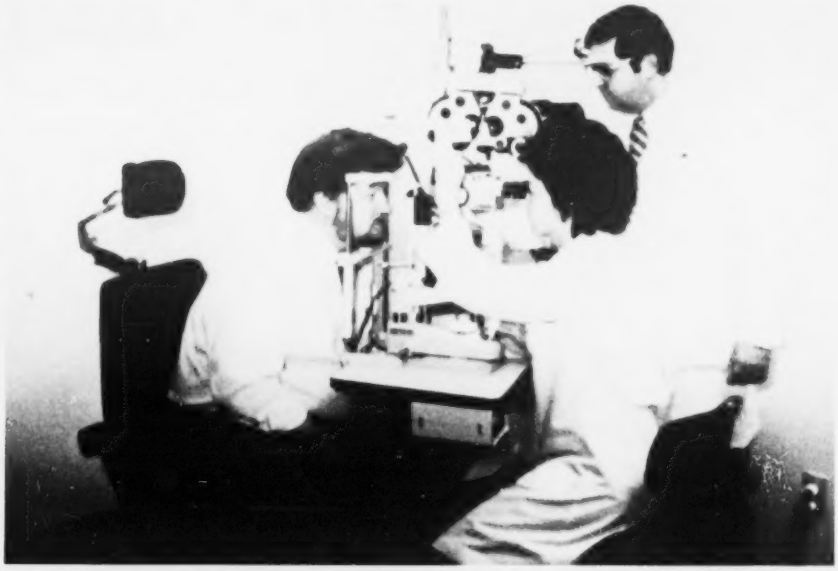
In 1981, Hines published a survey of ten Veterans Administration Optometric Residency programs available throughout the United States.[1] This paper is intended to update and add to the data presented by Hines in his report. A comparison of the two studies shows the VA optometry residency class of 1985 had more females, was paid relatively less, and had less interest in pursuing a career in optometric education than its colleagues in the class of 1981.

Introduction

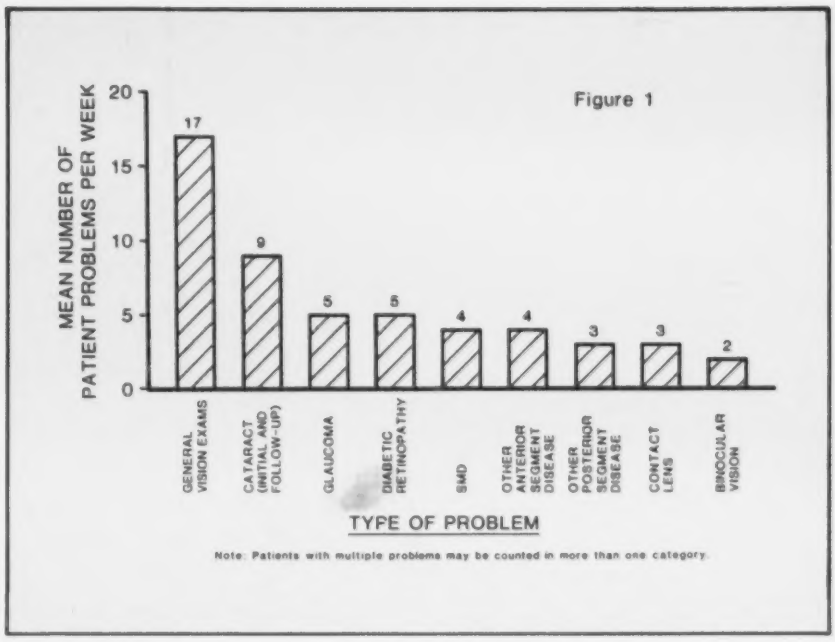
The Veterans Administration (VA) is the nation's largest centrally-directed health care delivery system. In affiliation with many of the country's health science schools and colleges, it also provides a major training site for clinical education and research. Last year, all or part of the clinical teaching experience was provided by the VA to 37% of all physicians filling approved medical residencies, 34% of all medical students, 20% of all dentists engaged in post-doctoral training, 10% of all nursing students and 49% of all optometrists involved in optometric residencies.[2,3]

The first VA residency program for

Daniel J. Koch, O.D., is a 1984 graduate of the Ohio State University College of Optometry and completed his VA residency program at the Chillicothe and Columbus, Ohio, VA facilities in June, 1985. Robert D. Newcomb, O.D., M.P.H., is chief of the optometry service at the Columbus VA Outpatient Clinic and a clinical assistant professor of optometry at the Ohio State University.



postgraduate clinical training in optometry was initiated at the Kansas City VA Medical Center in 1975 in conjunction with the Illinois College of Optometry.[1] By 1980, there were ten optometry residency positions funded by the VA's Office of Academic Affairs. In 1984, that number had increased to 28 separate programs consisting of 35 residency positions. While originally designed to provide doctors of optometry with advanced clinical experience in all aspects of primary care optometry, some of the newer programs now specialize in rehabilitative and geriatric optometry. In addition, clinical research, teaching and administrative skills are also learned by residents during their one year programs. A unique feature of all VA optometry residency programs is the exposure the resident receives to the delivery of comprehensive patient care services in a multidisciplinary setting. Combined with the residents' strong educational background, this leads to a high quality eye and vision examination for eligible patients.



Methodology

In March 1985, a detailed questionnaire was mailed to each of the VA optometry residency program directors and residents throughout the United States. Of the 28 directors' questionnaires mailed, all were returned. Of 35 residents' questionnaires mailed, 91 percent were returned.

The questionnaires were designed to provide current data comparable to that data presented in the 1981 Hines paper. This survey requested the demographic characteristics of each group (i.e., age, sex, undergraduate educational background and postgraduate studies). In addition, it also sought other epidemiologic data including the number and types of patients seen at each of the facilities and specifically by residents, the number and types of referrals made by the residents to other disciplines or specialty areas, and the types of optometry/ophthalmology services available at each VA facility. The educational aspects of each program were queried (i.e., the time distribution allotted for the residents' interdisciplinary rotations, clinical instruction, independent study, and research), and the residents were asked to provide information concerning outside employment income and health insurance costs. The post-residency plans of the present as well as the past residents were also surveyed. The last area of the questionnaire was reserved for comments about the residency programs and suggestions to improve them in future years.

Results: Personnel Characteristics

The ages of the 1984/85 optometry residents ranged from 24 to 35 years, with the median age being 27. Eleven of the 32 residents were female. This was in sharp contrast to the 1979/80 resident cohort which was made up entirely of males. Of the 32 residents responding, only one had not graduated in the school calendar year immediately preceding the residency term. Ninety-one percent of the residents had either a BA and/or a BS undergraduate degree. Nine percent held Masters-level degrees. Forty-one percent were married, with 21% having one or more dependents.

The ages of the directors ranged from 30 to 65 years, with a median age of 38.5. Only one of the 28 directors responding was female. The directors received their O.D. degrees from 44 to 3 years prior to this survey, with half receiving their degrees since 1972. Eighty-four percent of the directors had either a BA and/or a BS undergraduate degree. Twenty-eight percent held Masters-level degrees. Eighty percent of the directors had completed some formal post-graduate training beyond the O.D. degree. Seven reported residency training within the VA system, with an additional five indicating some other type of residency training. Others cited military training, continuing education, and additional college level education.

Program Descriptions

The total number of outpatient contacts made by the optometry clinics per week ranged from a low of 20 rehabilitative patients to a high of 200 hospital-based and geriatric patients, with a mean of 96 contacts. The variability in numbers of patients seen can be attributed to the type of setting involved (i.e., blind rehabilitation centers, hospitals, or outpatient clinics), as well as limitations imposed by physical space, equipment and personnel at each facility. The number of outpatient medical visits per week at each of these facilities showed a wide range also, from a low of 0 at a Blind Rehabilitation Center to a high of 4,123, with a mean of 1,162. At the facilities surveyed, optometry patients constituted approximately 8 percent of all outpatient medical visits seen per week. The residents examined between 9 rehabilitative and 82 hospital-based and geriatric patients per week, with a mean of 39. The wide range can be explained by the mission and available resources of specific programs and settings. The frequency of specific types of patients seen by the residents per week is shown in Figure 1. In addition to those tabulated in Figure 1, patients needing fluroescein angiography, electrodiagnostic testing, emergency care, adjustments to glasses and visual screenings were also reported.

Of the specialties referred to by the residents, ophthalmology received the most with an average of 5 patients per

TABLE 1
Time Distribution of Residents

Area	Average Time (hr)*
Clinical Duties (direct patient care)	24.6 hrs.
Rotations in other services and clinics	7.4 hrs.
Library, lectures, seminars	2.9 hrs.
Research	1.4 hrs.
Clinical Instruction	2.8 hrs.
	39.1 hrs.

*Data adjusted to reflect a 39-hr. work week for the residents.

week. Neurology, internal medicine, dermatology, social work and blind rehabilitation services each received approximately one referral per week by the residents. Other areas such as audiology and ENT showed slightly smaller referral numbers.

Since our cumulative data was highly variable in both the numbers and types of patient contacts, it was not possible to calculate a true rate of referral from optometry residents to other health care providers within the VA.

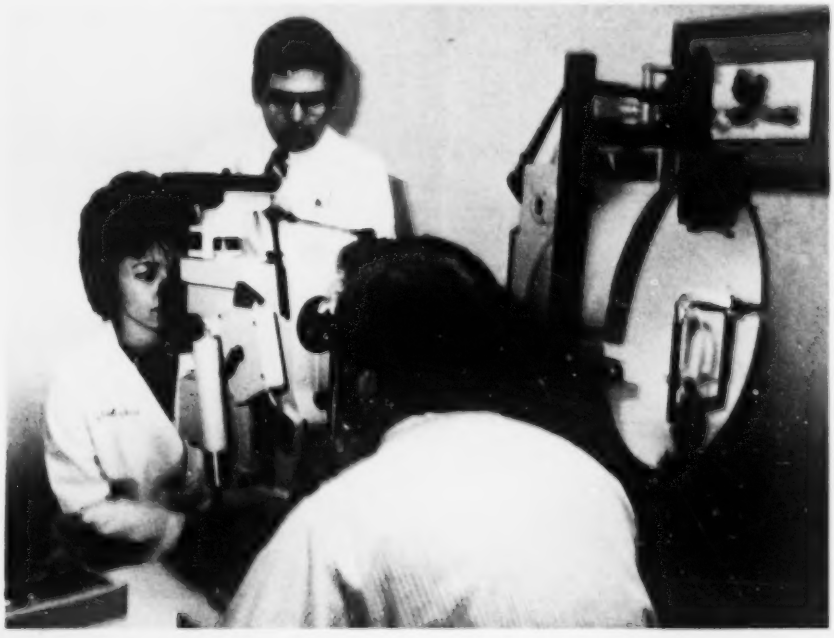
An average of 63 percent of the residents' time each week was spent providing direct optometry patient care services. Rotations through other clinics made up an additional 19 percent, with ophthalmology occupying over half (10.2 percent) of the time allotted for rotational experience. Other interdisciplinary rotations included internal medicine, neurology, dermatology, psychiatry/psychology, general surgery, audiology/ENT, pathology/lab service and social work/blind rehabilitation services.

The remainder of the residents' time was spent researching in the library or attending lectures and seminars (7.4 percent), providing instructional services to optometry students (7.2 percent), and doing clinical research (3.5 percent), as shown in Table 1. Weekly lectures and seminars available to the residents were sponsored by VA facilities or medical schools and, to a somewhat less extent, affiliated schools and colleges of optometry.

Residents' Salaries and Health Insurance

All VA optometry residents were paid a $12,700 annual salary for a 39-hour week. In addition, 72 percent of the responding residents indicated an average of $9,700 additional annual income from sources such as spouses, other employment, interest income, loans and/or other family support. In 1975, when the Kansas City program was initiated, the annual salary was set at $12,135. Two years later, in 1977, ten programs were in existence with a range in annual compensation from a low of $11,315 to a high of $12,499. In 1980, optometry resident salaries were standardized throughout the VA system at their present annual level of $12,700.[4] Using the low figure of $11,315 from 1977 for comparison to the salary of $12,700 for the 1984/85 residents, an increase of 12.2 percent is shown over this seven-year period. The consumer price index (CPI-W), the average prices of goods and services purchased by urban wage earners and clerical workers, has shown a contrasting increase of 64 percent over this same seven-year period.[5] In comparing the averages of the entry level GS-1, GS-5, and GS-10 general pay schedules for federal employees on October 8, 1978, with those same averages on January 6, 1985, an increase of 38.8 percent is established over those seven years.[6] Using $11,315 as a base, then, in order for VA optometry residents to reach parity with other federal employees, their present salaries would have to be $15,705 annually. Using the CPI-W as a standard, the calculated annual compensation would need to be $18,557 per year.

Since VA optometry residents do not have an opportunity to participate in the VA's many group health insurance plans, the questionnaire asked if health insurance was in effect from another source. Eighty-four percent responded affirmatively, with 52 percent having American Optometric Association-endorsed plans, 37 percent being covered by self or spousal employment plans, and 11 percent having private plans. The cost for these various plans ranged from $50 to $1,000 per year, with the average being about $373 annually.



Post-Residency Employment Options

Post-residency plans for employment were not finalized by the early Spring when the questionnaires were mailed. Residents were asked, however, to check all categories that applied in a multiple listing of potential employment options. Overwhelmingly, the majority (38 percent) gave a preference for private practice. The remainder were about evenly distributed in the categories of optometric education, health maintenance organizations, and government service (i.e., Department of Defense, VA, or Indian Health). These data are contrasted with that of Hines' in Figure

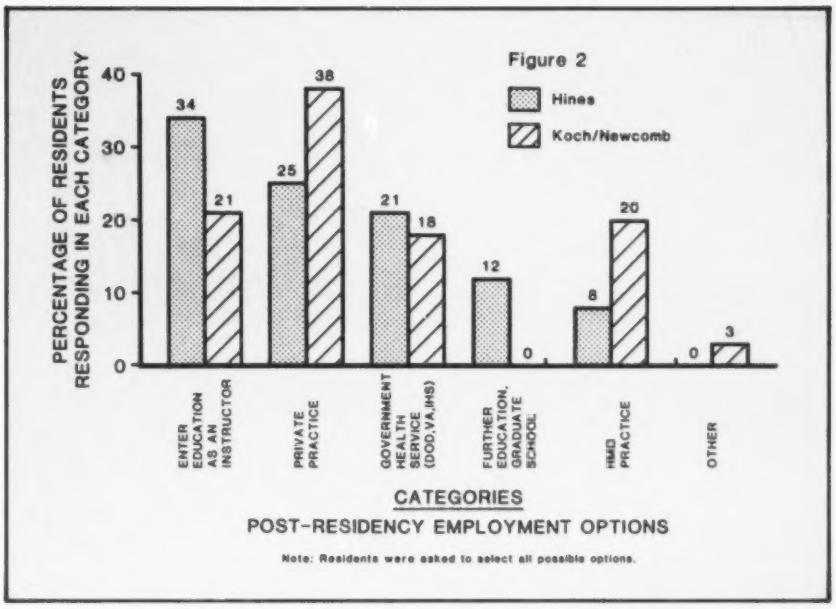
2. Directors were asked to give an accounting of the employment situations of past residents, and they responded with a majority (33 percent) in private practice, slightly less (25 percent) in education, and the balance (about 20 percent each) in HMO's and government health service.

Comments

All residency directors and residents who completed the questionnaire had an opportunity to comment about any positive or negative aspects of their programs. The most frequent comments from the directors included the need for: 1) more physical space in their clinics, 2) increased salary and benefit packages for residents, 3) additional clinic equipment, 4) increased professional staff, 5) enhanced school support, 6) more ancillary personnel, 7) increased library materials available in the clinic and 8) enhanced optometry/ophthalmology interaction. Comments offered by the residents themselves included: 1) more clinical research and time allotted for independent study at the library, 2) better salary and benefit packages, 3) more lecture/seminar time, 4) more interdisciplinary interaction and rotational experience, 5) additional clinic equipment, 6) better optometry/ophthalmology relationships, 7) expanded patient care clinical privileges, 8) enhanced communication with faculty (i.e., periodic evaluations of performance, review of interesting cases, better relationships with associated colleges of optometry, etc.) and 9) increased professional and ancillary staff. The residents agreed for the most part that their VA residency gave them a great deal of proficiency in handling primary care optometry patients. They also reported increased confidence and ability in differential diagnosis of ocular diseases and a better understanding of optometry's role in a multidisciplinary setting.

Conclusion

Poorman has concluded that "residency programs in optometry . . . will become more prevalent in the future," and stated that "the graduates of these programs have contributed significantly to the private practice of optometry and to optometry in clinical education."[7] We agree completely with his forecast and observation, but wish to report two major trends which were identified when we contrasted the data from Hines' survey with those of this study. The first major trend was the dramatic increase in the number of female VA optometry residents from 1980 to 1985. Hines reported 0 percent females in his study population of 11 VA optometry residents, while one-third of our study population was female. This trend is consistent with the changing mix of men and women currently enrolled in all schools and colleges of optometry.



The second major trend was in the area of post-residency employment options. While Hines reported some interest in education (34 percent), private practice (25 percent), government health service (21 percent), further education (12 percent), and HMO practice (8 percent), our study population indicated a trend away from interests in optometric education careers and further education, and a concurrently increasing trend toward private and HMO practice. Since the median age of the residents was the same in each study, the reason(s) for this second trend is (are) less apparent. However, some possible explanations could be that (1) the sample size in Hines' study may have been too small to allow for reliable analyses, (2) some clinical faculty positions in a few of our educational institutions may be filled by previous VA residents or others with expertise in similar clinical areas, (3) starting salaries and/or academic ranks in some of the schools and colleges may be too low to attract our residents into academic careers and lifestyles, and/or (4) the HMO practice option is more available today than it was five years ago.

Finally, while both directors and residents agreed that the VA residency programs provide invaluable clinical experiences, they also agreed that those experiences would be enhanced by higher residency salaries and benefits, better clinical equipment, increased professional and ancillary staff, and enhanced optometry/ophthalmology interaction. In addition, the directors noted a need for more physical space in their clinics, and the residents suggested that more research/library time be incorporated into their 39-hour per week assignments. □

Acknowledgements

The authors would like to express appreciation to Drs. Kenneth J. Myers and Arol Augsburger for their critical reviews of this paper while it was in draft form. Similar appreciation is expressed to Ms. Wendy Clark at the College of Optometry, The Ohio State University, for her design of our figures.

References

1. Hines JL. Survey of optometry residency programs in the Veterans Administration. Am J Optom Physiol Opt 58(12): 1097-1103. Opt 1981; 58:1097-1103
2. U S Medicine 1985; 21(2):12.
3. Smith LW. Personal communication with the Executive Director of the Association of Schools and Colleges of Optometry, Washington, DC, Mar 29, 1985.
4. Ziemba BL. Personal communication with the VA Central Office Department for Academic Affairs, Washington, DC, June 11, 1985.
5. 1985 World Almanac. New York: Newspaper Enterprise Assoc, 1985, 100-101.
6. Dauber BA. Personal communication with the Chillicothe VA Medical Center Personnel Service, Chillicothe, OH, May 29, 1985.
7. Poorman DH. A current analysis of optometric residency programs. J Am Optom Assoc 1985; 56: 494-497.